

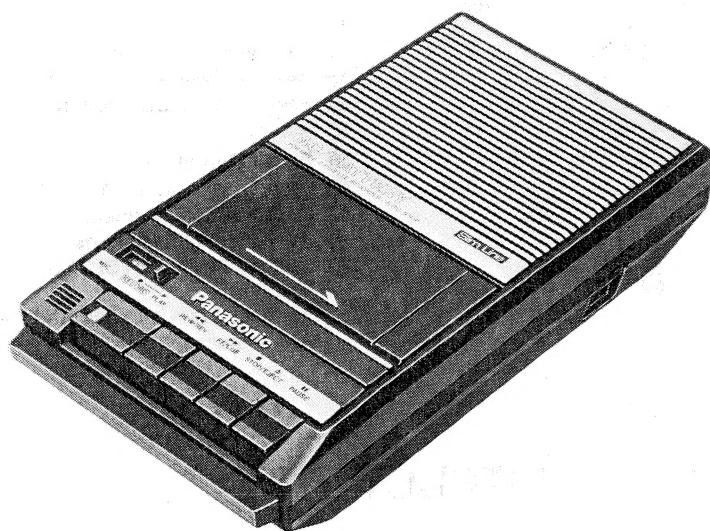
Service Manual

Portable Cassette Tape Recorder

Portable Cassette

RQ-2104

(Black)



This is the Service Manual for the following areas.

Z ... For all European areas except United Kingdom and F.R. Germany.

E ... For United Kingdom.

X ... For Asia, Latin America, Middle East and Africa areas.

L ... For Australia.

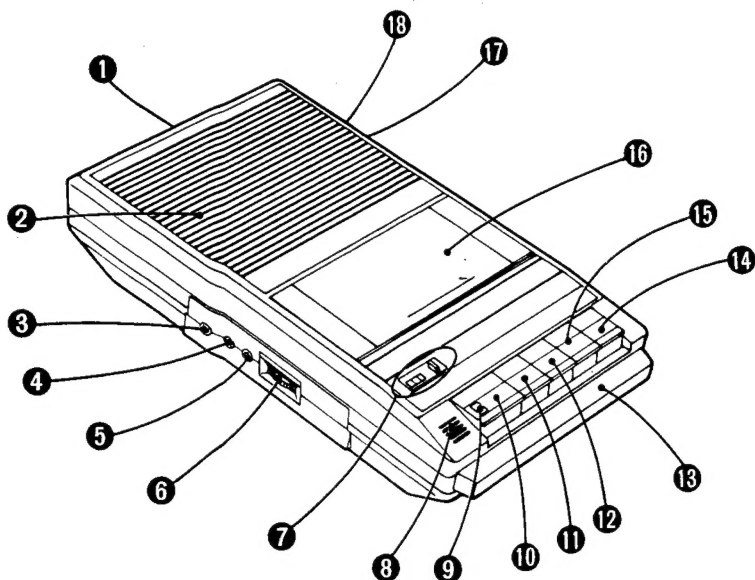
RQ-2745 MECHANISM SERIES

■ SPECIFICATIONS

Power Requirement:	Battery; 6V (four "C" size dry batteries)
	Z AC; 220V, 50 Hz
	E L AC; 240V, 50 Hz
	X AC; 110—127/220—240V, 50/60 Hz
Motor:	Electrical governor motor
Tape Speed:	4.8cm/s
Recording System:	DC bias. Magnet erase
Fast Forward and Rewind Time:	Approx. 90 seconds with C-60 cassette tape
Track System:	2 track monaural recording and playback
Power Consumption:	6W (AC only)
Power Output:	650mW ... RMS (max.)
Input:	MIC; sensitivity 0.25mV/applicable microphone impedance 200Ω~600Ω (φ3.5)
Output:	Monitor; 8Ω (φ3.5)
Frequency Response:	100~7,000 Hz
Speaker:	8cm PM dynamic speaker (8Ω)
Dimensions:	139mm(W)×52mm(H)×249mm(D)
Weight:	870g without batteries

Design and specifications are subject to change without notice.

LOCATION OF CONTROLS AND COMPONENTS



- ❶ Battery Compartment [Bottom]
- ❷ Speaker 8cm, 8Ω
- ❸ Monitor Jack (MONITOR (8 Ω)) φ3.5
- ❹ Remote Jack (REMOTE)
- ❺ Microphone Jack (MIC) φ3.5
(0.25 mV/200~600Ω)
- ❻ Volume Control (VOLUME)
- ❼ Tape Counter and Reset Button
- ❽ Built-in Microphone (MIC)
- ❾ Record Button (● [RECORD])
- ❿ Playback Button (▶ [PLAY])
- ⓫ Rewind/Review Button (◀◀ [REW/REV])
- ⓬ Fast Forward/Cue Button (▶▶ [FF/CUE])
- ⓭ Handle
- ⓮ Pause Button (⏸ [PAUSE])
- ⓯ Stop/Eject Button (■/▲ [STOP/EJECT])
- ⓰ Cassette Compartment
- ⓱ AC Socket (AC IN) [Side]
- ⓲ Voltage Selector (VOLTAGE SELECTOR) [Bottom]
(for Asia, Latin America, Middle East and Africa areas.)

DISASSEMBLY INSTRUCTIONS

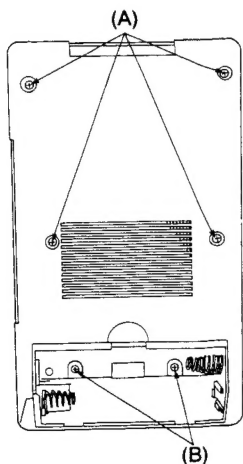


Fig. 1

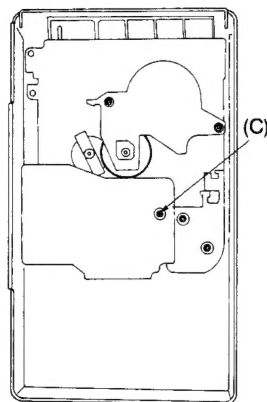


Fig. 2

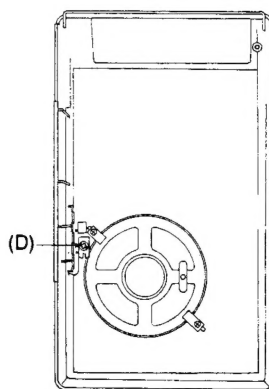


Fig. 3

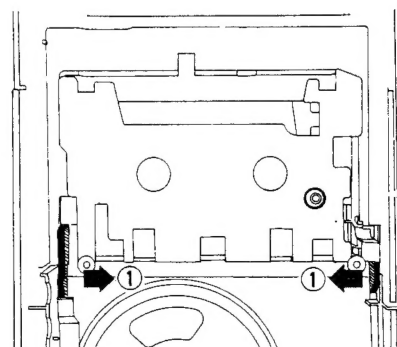


Fig. 4

Ref No.	Shown in Fig. —.	To remove —.	Remove —.
1	1	Main Case	Screw (3×30) mm.....(A)×4
2			Screw (3×8) mm.....(B)×2
3	2	Circuit Board	Screw (3×8) mm.....(C)×1
4	3	Cassette Lid	Screw (3×8) mm.....(D)×1
5	4		Remove the rib direction of arrows ①.

HOW TO FIX THE MOTOR

Remove the three screws E×3 (2.6×8)mm.
(See Fig. 5)

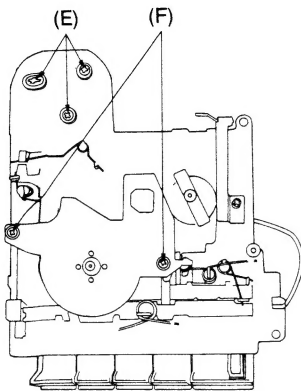


Fig. 5

HOW TO FIX THE FLYWHEEL ASS'Y

1. Remove the two screws F×3 (2.6×10)mm and flywheel holding plate ass'y. (See Fig. 5)
2. Pull out the flywheel ass'y in the direction of arrow ②. (See Fig. 6)

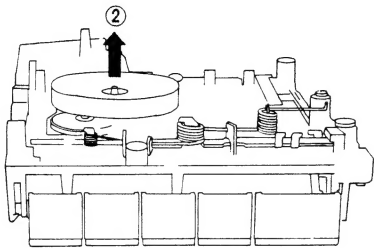


Fig. 6

MEASUREMENTS AND ADJUSTMENTS

ALIGNMENT INSTRUCTION

READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT

1. Make sure heads are clean.
2. Make sure capstan and pressure roller are clean.
3. Judgeable room temperature: 20±5°C (68±9°F)
4. Set volume control to maximum.

ADJUSTMENT

ITEM	INPUT	MEASUREMENT POINT	SPECIFICATION	ADJUSTMENT POINT	REMARKS
Head azimuth	QZZCFM (8kHz, -20dB)	Monitor (8Ω)	Maximum output	Head adjustment screw	Playback Mode (Refer to Fig. 1)
Tape speed	QZZCWAT (3kHz)	Monitor (8Ω)	3000±90Hz	Tape speed adjustment VR	Playback Mode (Refer to Fig. 2)

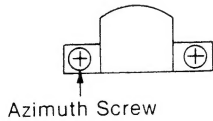


Fig. 1

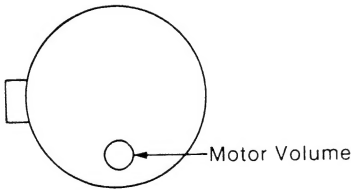
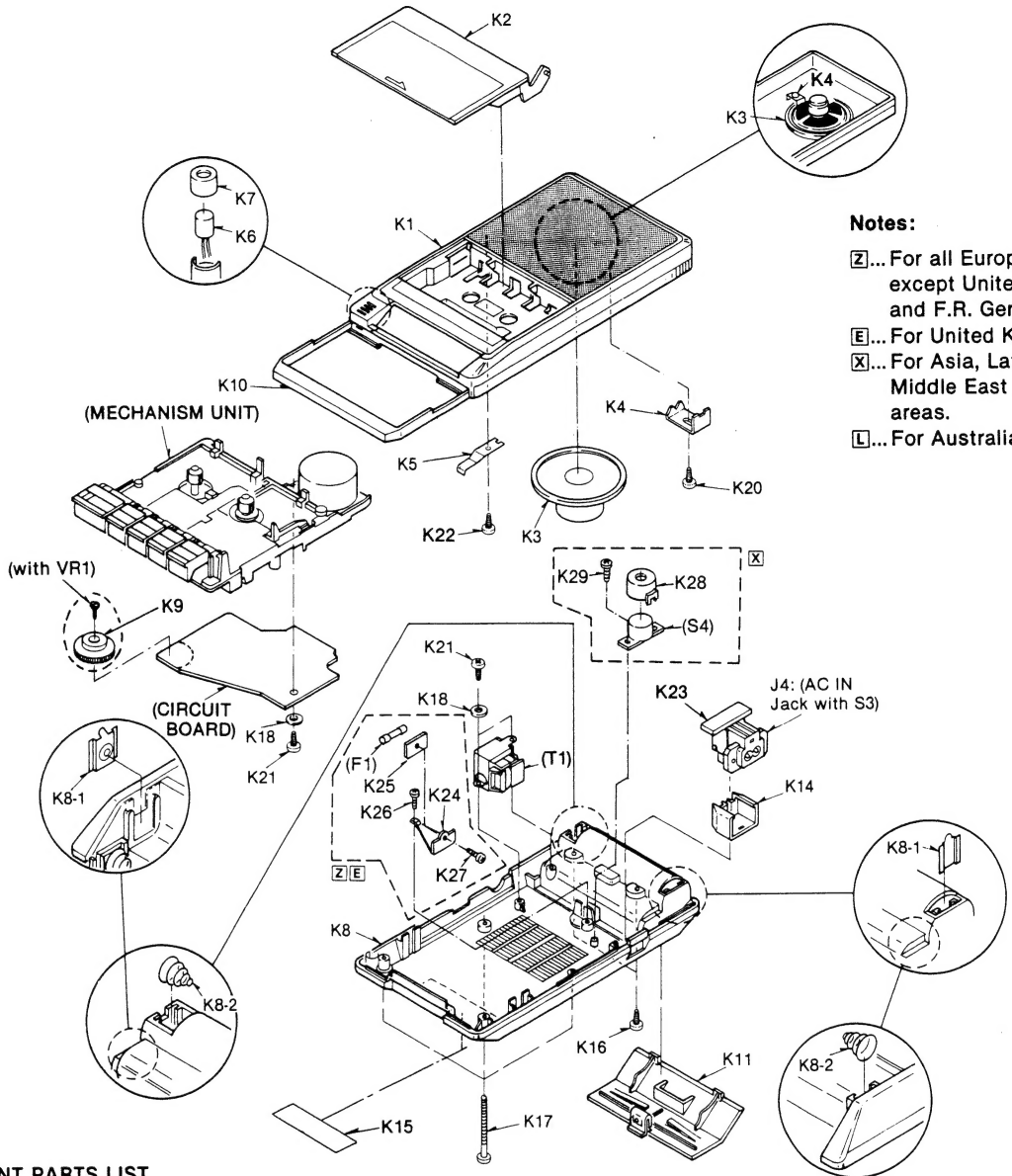


Fig. 2

CABINET PARTS LOCATION



Notes:

- ②... For all European areas except United Kingdom and F.R. Germany.
- ③... For United Kingdom.
- ④... For Asia, Latin America, Middle East and Africa areas.
- ⑤... For Australia.

REPLACEMENT PARTS LIST

Important safety notice
Components identified by Δ have special characteristics important for safety.
When replacing any of these components, use only manufacturer's specified parts.

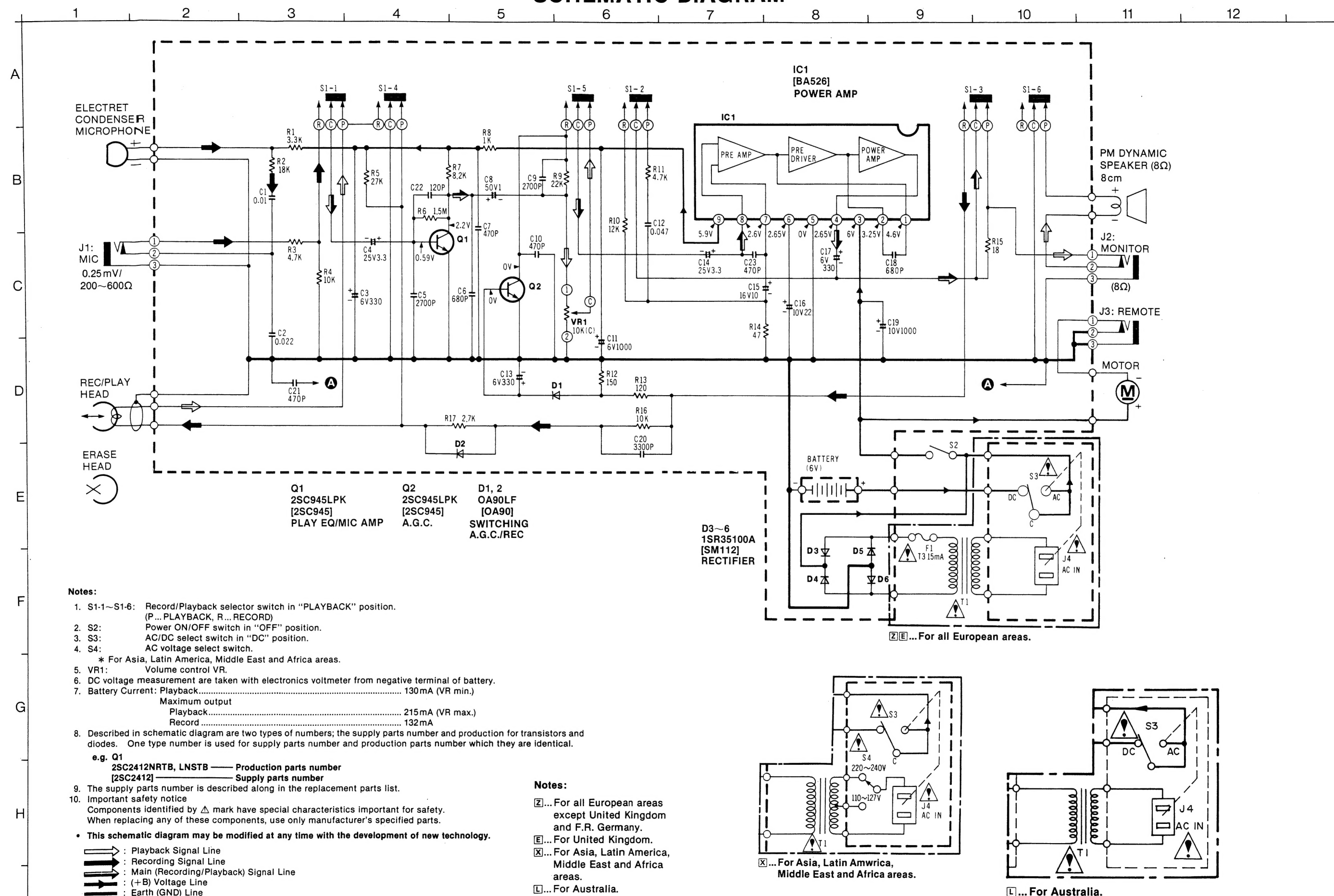
• mark stand for that the parts are supplied in MESA.

Notes:

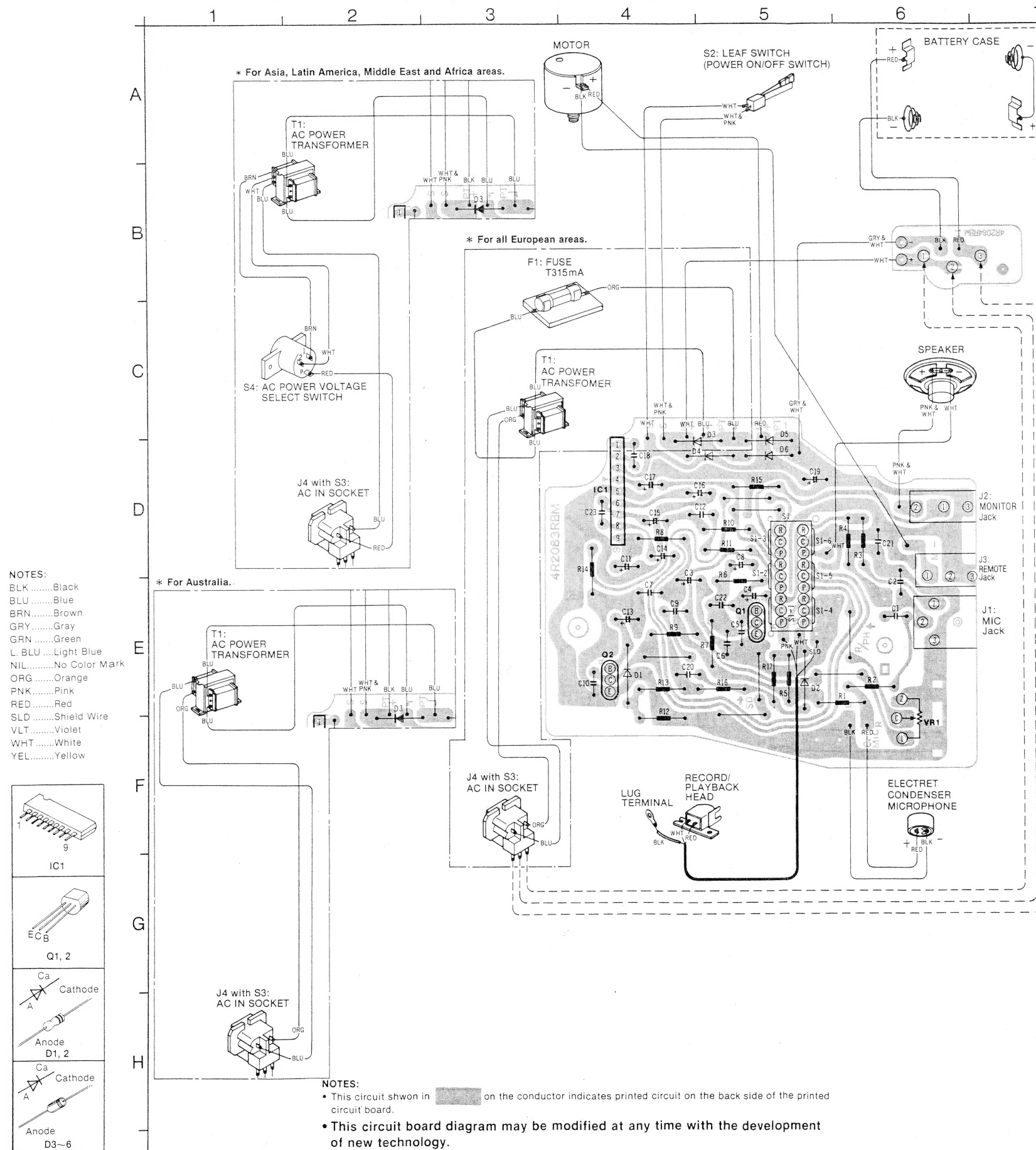
The letter in the circle after the part name indicates the color of the part.
⑥... Black

Ref. No.	Part No.	Part Name & Description	Ref. No.	Part No.	Part Name & Description	Ref. No.	Part No.	Part Name & Description
CABINET PARTS			ACCESSORIES			PACKINGS		
• K 1 [Z] [E]	RKM956X	Main Case ⑥	• K 15 [L]	RGT1209V	Main Name Plate	• P 1 [Z] [E]	RPK2291Z	Gift Box
• K 1 [X] [L]	RKM956W	Main Case ⑥	K 16	XTN3 + 8G	Screw ③×8 (Bottom Case Ass'y M'tg)	• P 1 [X] [L]	RPK2292Z	Gift Box
• K 2	RKG157Z	Cassette Lid	K 17	XTN3 + 30G	Screw ③×30 (Bottom Case Ass'y M'tg)	• P 2	QPC4R0125	Polyethylene Cover (Cushion Type)
• K 3	EAS8P28SE	Speaker	K 18	XWG3	Washer ③ (Transformer, P.C.B. M'tg)	• P 3	QPA4R0732	Cushion
K 4	QKT1172	Speaker Fixing Metal	K 20	XTV3 + 6G	Screw ③×6 (Speaker M'tg)	• P 4	XZB20X30A02	Polyethylene Cover
K 5	QBP0074	Spring (Cassette Lid)	K 21	XTN3 + 8B	Screw ③×8 (Transformer, P.C.B. M'tg)			
K 6	WM034ZP	Condenser Microphone	K 22	XTV3 + 8G	Screw ③×8 (Cassette Lid Spring M'tg)			
K 7	QBG1616	Mic Cushion	• K 23	QJ4R2084RBM	Circuit Board (Jack)			
• K 8 [Z]	RYFQ2104Z	Bottom Case Ass'y ⑥	• K 24 [Z] [E]	QMA4R4757	Angle, Fuse			
• K 8 [E] [L]	RYFQ2104E	Bottom Case Ass'y ⑥	K 25 [Z] [E]	QTF1027	Fuse Holder Δ			
• K 8 [X]	RYFQ2104X	Bottom Case Ass'y ⑥	K 26 [Z] [E]	XTN3 + 6G	Screw ③×6 (Fuse Angle M'tg)			
K 8-1	QJB0111	Battery Terminal (+)	K 27 [Z] [E]	XSN3 + 5	Screw ③×5 (Fuse Holder M'tg)			
K 8-2	QBN8007	Battery Spring (-)						
• K 9	QGT4R1414	Knob, Volume (K)						
• K 10	QKH4R1193	Handle						
• K 11	QKD4R1216	Battery Lid ⑥						
K 14	RUV482Z	AC Socket Cover Δ						
• K 15 [Z]	RGT1209Y	Main Name Plate						
• K 15 [E]	RGT1209W	Main Name Plate						
• K 15 [X]	RGT1209X	Main Name Plate						

SCHEMATIC DIAGRAM



CIRCUIT BOARDS AND WIRING CONNECTION DIAGRAM



ELECTRICAL PARTS LIST

Numbering System of Resistor

Example	25	F	J	101
ERD	Wattage	Shape	Tolerance	Value (100Ω)
ERX	2	AN	J	2R2
Type	Wattage	Shape	Tolerance	Value (2.2Ω)

Resistor Type	Wattage	Tolerance
ERD: Carbon	10 : 1/8 W	J : ±5%
ERG: Metal Film	12 : 1/2 W	
ERX: Metal Film	25 : 1/4 W	
ERQ: Fuse Type Metal	1 : 1 W	
RRD: Carbon (Chip Type)	18 : 1/8 W	

Numbering System of Capacitor

Example	1H	102	Z	F
ECKD	Voltage	Value (1000 pF)	Tolerance	Peculiarity
ECEA	50	M	R47	
Type	Voltage	Peculiarity	Value (0.47 μF)	

Capacitor Type	Voltage		Tolerance
	ECEA Type	Other	
ECEA: Electrolytic	0J : 6.3 V	2H : 500 V DC	C : ±0.25 pF
ECCD: Ceramic	1A : 10 V	1 : 100 V	J : ±5%
ECKD: Ceramic	1C : 16 V	DKC : 400 V AC	K : ±10%
ECQM: Polyester	1E : 25 V		Z : +80%, -20%
ECQP: Polypropylene	1H : 50 V		P : +100%, -0%
ECET: Electrolytic	1V : 35 V		
ECEA□□□□: Non Polar Electrolytic	50 : 50 V		
QCU□: Ceramic (Chip Type)	25 : 25 V		
ECUX: Ceramic (Chip Type)	16 : 16 V		

REPLACEMENT PARTS LIST

Important safety notice
 Components identified by Δ mark have special characteristics important for safety.
 When replacing any of these components, use only manufacturer's specified parts.

Ref. No.	Part No.	Part Name & Description	Ref. No.	Part No.	Part Name & Description
INTEGRATED CIRCUIT			VARIABLE RESISTOR		
IC 1	BA526	IC (POWER AMP)	VR 1	EVJ56AT12C14	Volume Control/with Screw (10kΩ/C)
TRANSISTORS			FUSE		
Q 1, 2	2SC945LP	Transistor (PLAY EQ/MIC AMP, AGC)	F 1 [Z][E]	XBAQ0006	Fuse (T315mA) Δ
DIODES & RECTIFIERS			SWITCHES		
D 1, 2	20A90	Diode (SWITCHING)	S 1	QSS6212	Record/Playback Switch
D 3, 4, 5, 6	1SR35100A	Diode (RECTIFIER)	S 2	QSB0170K	Switch, Power ON/OFF
TRANSFORMERS			S 4 [X]	RSR2A01Z	Switch, Voltage Selector Δ
T 1 [Z]	QLPD91AHV	AC Power Transformer Δ	JACKS		
T 1 [E][L]	QLPZ25AHV	AC Power Transformer Δ	J 1	QJA0172	Jack, MIC
T 1 [X]	QLPN54AHV	AC Power Transformer Δ	J 2	RJJ19Y	Jack, Monitor
			J 3	QJA0156	Jack, Remote
			J 4 [Z][E]	RJJ115Z	Jack, AC IN whit S3 Δ
			J 4 [X][L]	RJJ112Z	Jack, AC IN whit S3 Δ

Notes:

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Ref. No.	Part No.	Ref. No.	Part No.
RESISTORS		CAPACITORS	
R 1	ERD25FJ332	C 1	ECFDD103MXY
R 2	ERD25TJ183	C 2	ECFDD223MXY
R 3, 11	ERD25FJ472	C 3, 13, 17	ECEA0JU331
R 4, 16	ERD25FJ103	C 4, 14	ECEA1EU3R3
R 5	ERD25TJ273	C 5, 9	ECFDD272MXY
R 6	ERD25TJ155	C 6, 18	ECKD1H681KB
R 7	ERD25FJ822	C 7, 10, 21, 23	ECKD1H471KB
R 8	ERD25FJ102	C 8	ECEA1HU010
R 9	ERD25TJ223	C 11	ECEA0JU102
R 10	ERD25TJ123	C 12	ECFDD473MXY
R 12	ERD25FJ151	C 15	ECEA1CU100
R 13	ERD25FJ121	C 16	ECEA1AU220
R 14	ERD25FJ470	C 19	ECEA1AU102
R 15	ERD25FJ180	C 20	ECKD1H332KX
R 17	ERD25FJ272	C 22	ECKD1H121KB

REPLACEMENT PARTS LIST

• mark stands for that the parts are supplied in MESA.

Ref. No.	Part No.	Part Name & Description
MECHANICAL PARTS		
• M 1	QG04R2204	Butt on, Playback
• M 2	QG04R2203	Butt on, Operation (REW/REV, F.F/CUE, STOP/EJECT, PAUSE)
• M 3	QG04R2205	Butt on, Record
• M 4	QMN4R2825	Shaft, Button
• M 5	QMG4R0123	Tape Guide
M 6	XTN26 + 8B	Screw $\phi 2.6 \times 8$ (Erase Head, Rod Pressure Plate M'tg)
M 7	XSN26 + 3	Screw $\phi 2.6 \times 3$ (Tape Guide M'tg)
M 9	XSB2D5	Screw (Head Adjustment)
• M 10	QBC4R1446	Spring, Head Adjustment
M 11	XSB2D6	Screw (Head M'tg)
M 12	QJT0039	Lug Terminal
• M 13	QBN4R1986	Spring, Pinch Roller
• M 14	QML4R4019	Lever, Auto Stop Detecting
• M 15	QXL4R1625	Pinch Roller Bracket Ass'y
• M 16	QML4R4017	Lever, Idler
• M 17	QBN4R1988	Spring, Idler
• M 18	QXU4R0324	Motor Ass'y
• M 19	QBN4R1987	Spring, Cassette Pressure
• M 20	QXD4R0150	Take-up Reel Table Ass'y
• M 21	QDR4R1171	Supply Reel Table
M 22	QBW0042	Washer (Reel Table M'tg)
• M 23	QXK4R2871	Head Base Plate Ass'y
• M 24	QML4R4021	Lever, Erase Safety
• M 25	QBN4R1783	Spring, Erase Safety Lever
• M 26	QBP4R1990	Spring, Record
M 27	QDK1012	Steel Ball $\phi 2.5$
• M 28	QMR4R2090	Stop/Eject Rod
• M 29	QMR4R2089	Pause Rod
• M 30	QMR4R2091	F.F Rod
• M 31	QMR4R2092	Rewind Rod
• M 32	QMR4R2093	Playback Rod
• M 33	QMR4R2094	Record Rod
• M 34	QMR4R1783	Lock Rod
• M 35	QBN4R1777	Spring, F.F Rod
• M 36	QBN4R1709	Spring, Stop Rod
• M 37	QMF4R2085	Plate, Rod Pressure
• M 38	QBN4R1776	Spring, Playback Rod
• M 39	QBT4R1972	Spring, Head Base Plate Fixing
• M 40	QBN4R1706	Spring, Record Rod
M 41	XWG26	Washer $\phi 2.6$ (Rod Pressure Plate, Flywheel Retainer M'tg)
M 42	XTN26 + 4B	Screw $\phi 2.6 \times 4$ (Record Rod M'tg)
M 43	QBW2008	Washer $\phi 2$ (Rewind Gear, Reel Table M'tg)
• M 44	QBC4R1447	Spring, Back Tension
• M 45	QXL4R1562	F.F Frame Sub Ass'y
• M 45-1	QBN4R1710	Spring, F.F Frame Sub
• M 46	QBW0043	Washer (Capstan M'tg)
• M 47	QML4R3531	Lever, Change
• M 48	QML4R4022	Lever, Cue
• M 49	QBN4R1712	Spring, F.F Sub
• M 50	QBN4R1701	Spring, Change Lever
M 51	QML3528	Lever, Pause Lock
• M 52	QBN4R1705	Spring, Pause Lock
M 53	QBW2046	Washer (Idler M'tg)
• M 54	QX14R0109	Idler Ass'y
• M 55	QMR4R1784	Auto Stop Driving Rod
• M 56	QBT4R1889	Spring, Auto Stop Driving Rod
• M 57	QH01359	Screw (Motor M'tg)
• M 60	QDB4R0337	Belt, Flywheel
• M 61	QXF4R0216	Flywheel Ass'y
• M 62	QXH4R0429	Flywheel Retainer Ass'y
• M 63	QML4R4020	Lever, Cassette Up
M 64	XTN26 + 10B	Screw $\phi 2.6 \times 10$ (Flywheel Retainer M'tg)
• M 65	QXG4R1045	F.F Pulley Ass'y
• M 66	QDG4R1193	Gear, Rewind
M 67	QWY0120	Record/Playback Head
• M 68	QWY2139S	Erase Head
M 69	XTN2 + 8B	Screw $\phi 2 \times 8$ (Leaf Switch M'tg)
• M 70	QDC4R0178	Tape Counter
M 71	QDB0268	Belt, Tape Counter
• M 72	QXK4R2711	Mechanism Chassis Ass'y
• M 72-1	QBG4R1420	Cushion, Motor Rubber

SPECIFICATIONS

Pressure of pressure roller	420 \pm 60g
Takeup tension	50 \pm 15g-cm
Wow and flutter (JIS)	Less than 0.3% (WRMS)
Tape speed accuracy	\pm 3%

MECHANISM PARTS & SPRING LOCATION

